(No Model.)

H. W. ESKILDSON.

HOOP CUTTING MACHINE.

No. 273,266. Patented Mar. 6, 1883.

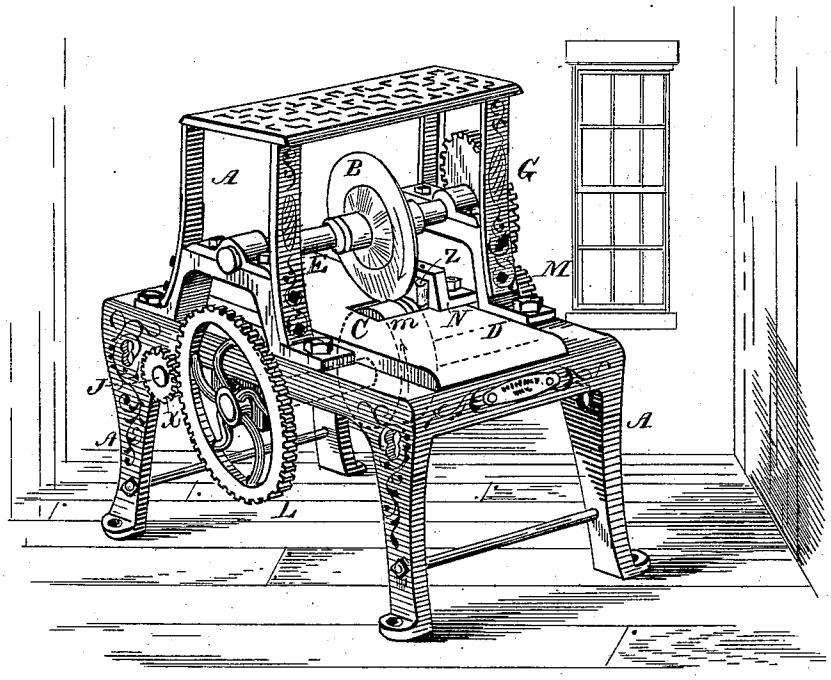

Fig. 1.

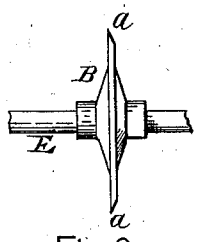

Fig. 3.

Fig. 2.

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UNITED STATES PATENT OFFICE.

HENRY W. ESKILDSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF, AND CHARLES A. SHAW, OF SAME PLACE.

HOOP-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 273,266, dated March 6, 1883.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. ESKILDSON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a certain new and useful Improvement in Hoop-Cutting Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view; Fig. 2, an end view; and Fig. 3, a front or edge view of the cutter detached.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to mechanism for cutting finished hoops directly from ordinary hoop-poles; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and claimed, by which a simpler, cheaper, and more effective device of this character is produced than has heretofore been in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters by the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A represents the frame of the machine; B, the circular knife or cutter; C, the bed-roller, and D the table.

The knife is arranged vertically on the shaft E, which is journaled horizontally in the upper part of the frame, and provided at one of its ends with the gear G.

The bed-roller C is mounted on a shaft, H, journaled in the lower part of the frame directly under the shaft E, and in parallelism therewith, and projects slightly through the slot *m* in the table D, as shown in Fig. 1.

A shaft, J, provided with the pinion *x* and pulley *d*, for the belt K, is journaled near one end of the main frame, the pinion intermeshing with the main gear L on the shaft H, which shaft also carries at its opposite end a gear, M, corresponding in size and intermeshing with the gear G.

The circular knife or cutter B is beveled on one side of its edge, as seen at *a*, Fig. 3; and formed in the periphery of the bed-roller C, near one of its ends, there is a corresponding annular groove, *f*, in which the edge of the knife works when in use.

Arranged near the bed-roller C, on the beveled side of the knife, there is a laterally-adjustable guide, N, attached to the bed-piece or table of the machine, and provided with a vertically-arranged friction-roller, *z*, as shown.

The size of the knife B is preferably about six inches in diameter, the roller being about six inches in length and of a diameter corresponding with that of the knife.

In the use of my improvement, the machine being started up in the direction of the arrow by the belt K or power applied to the shaft J, the hoop-pole from which the hoop is to be cut is placed against the roller *z* and pushed under the knife B, where it will be caught by the knife and roller C and fed through the machine, the hoop being cut therefrom in a manner which will be readily obvious without a more explicit description.

The roller C and knife B, rotating in opposite directions, as indicated by the arrows thereon, constitute in themselves a nearly perfect feeding mechanism, and as no auxiliary feeding rollers or devices are required the operator is enabled to move the pole more readily from side to side while in the machine, thereby causing the knife to follow the grain of the pole and produce better work.

It will be understood that the tendency of the beveled edge *a* is to press the pole against the roller *z*, and that consequently the thickness of the hoop cut therefrom will depend upon the position of the gage N in reference to the knife.

It will also be understood that the pulley *d*, pinion *x*, and gear L may be varied in size in accordance with the speed at which it is desired to run the machine, and that the diameter of the knife B and roller C and the size of the roller *z* may be varied to produce the best results.

The roller in the gage N may be omitted, if desired; but it is preferable to use it. The pulley *d* may also be placed directly on the shaft H, instead of on the shaft J, and the

shaft J, pinion *x*, and gear L dispensed with; but when so disposed its size must be varied accordingly.

The table D is also not absolutely essential, and may be omitted, if preferred.

Having thus explained my invention, what I claim is—

1. In a hoop-cutting machine, a peripherally-grooved roller, a circular rotary knife, having an edge which projects into the groove of said roller, and a laterally-adjustable gage parallel with the feed and adjacent to the meeting-point of said knife and roller, substantially as described.

2. A hoop-cutting machine consisting of a supporting-frame provided with bearings below and above its top surface, a shaft supported in the lower bearings, carrying a peripherally-grooved roller, a shaft in the upper bearings carrying a circular beveled cutting-knife which projects into the groove of the roller, a laterally-adjustable gage parallel with the direction of the feed, located adjacent to the meeting-point of said cutter and roller, and driving and intermediate mechanisms for operating said shafts, substantially as described.

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